

# CHANGE ISSUE – RTCA/DO-242

## MASPS for ADS-B Rev. A

Tracking Information (committee secretary only)	
Change Issue Number	67
Submission Date	07/01/02
Status (open/closed/deferred)	TBD
Last Action Date	None

Short Title for Change Issue:	Required ranges for interoperability between equipage classes
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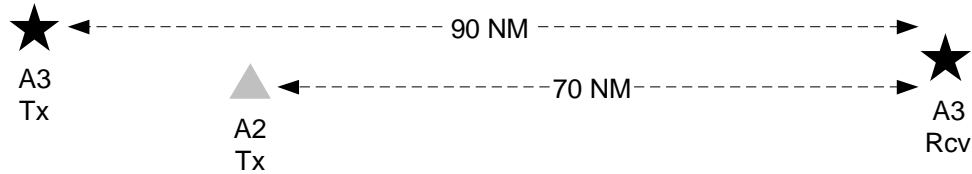
MASPS Document Reference:		Originator Information:	
Entire document (y/n)		Name	Ron Jones, FAA / ASD-140
Section number(s)		Phone	(202) 358-5345
Paragraph number(s)		E-mail	<a href="mailto:Ron.Jones@faa.gov">Ron.Jones@faa.gov</a>
Table/Figure number(s)		Other	

Proposed Rationale for Consideration (originator should check all that apply):	
<input type="checkbox"/>	Item needed to support of near-term MASPS/MOPS development
<input type="checkbox"/>	DO-260/ED-102 1090 MHz Link MOPS Rev A
<input type="checkbox"/>	ASA MASPS
<input type="checkbox"/>	TIS-B MASPS
<input checked="" type="checkbox"/>	UAT MOPS
<input type="checkbox"/>	Item needed to support applications that have well defined concept of operation
<input type="checkbox"/>	Has complete application description
<input type="checkbox"/>	Has initial validation via operational test/evaluation
<input type="checkbox"/>	Has supporting analysis, if candidate stressing application
<input type="checkbox"/>	Item needed for harmonization with international requirements
<input type="checkbox"/>	Item identified during recent ADS-B development activities and operational evaluations
<input checked="" type="checkbox"/>	MASPS clarifications and correction item
<input type="checkbox"/>	Validation/modification of questioned MASPS requirement item
<input type="checkbox"/>	Military use provision item
<input type="checkbox"/>	New requirement item (must be associated with traffic surveillance to support ASAS)

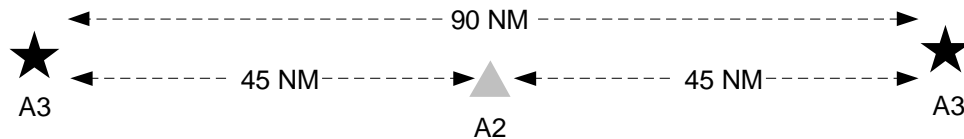
Nature of Issue:	<input type="checkbox"/>	Editorial	<input checked="" type="checkbox"/>	Clarity	<input checked="" type="checkbox"/>	Performance	<input type="checkbox"/>	Functional
<p><u>Issue Description:</u></p> <p>Section 3.3.1 “Surveillance Coverage” is ambiguous regarding interoperability ranges among different equipage classes. Table 3-2(b) shows the interoperability ranges among Class A equipment. While the authors of this table and some readers claim the values in Table 3-2(a) are meant to represent performance in an interference-free environment and only used for link-budget analysis, others interpret the table and its associated text (which uses the term “operational ranges”) to represent performance values that must be obtained within the operational airspace.</p> <p style="text-align: center;">(Continued on next page.)</p>								

Issue Description (continued):

An example scenario discussed during the final review and comment of the initial version of the UAT ADS-B MOPS had two A3 aircraft 90 NM apart and an A2 aircraft a short distance away from the first A3. In this scenario, does the 2<sup>nd</sup> A3 need to perform deconfliction on both aircraft, or only the 1<sup>st</sup> A3, even though the A2 is closer and possibly of more immediate concern?



A second - more extreme - example shown below, has two A3 ADS-B participants 90NM apart with an A2 participant 45NM away from each A3. In this example, the two A3 aircraft see each other, but potentially neither A3 sees the A2 aircraft at half the distance.



Originator's proposed resolution:

DO-242B efforts should examine this area of the MASPS and determine if these requirements need to be obtained within operational airspace, or if these ranges are to be used only for link-budget considerations in an interference free environment. Considerations should include that practicality/feasibility/efficiency of doing long-range deconfliction with aircraft not broadcasting long-term intent.

Working Group 6 Deliberations:

WG6 has not formally reviewed this Issue Paper yet. This Issue Paper was created in response to the final review and comment process on the UAT ADS-B link MOPS. The UAT MOPS was submitted to the SC-186 plenary for review in June, 2002 which was after the completion of DO-242A. WG6 will consider this Issue Paper when it reconvenes to begin considering revision B of the ADS-B MASPS.